Contents of Volume 180, No. 1

FULL PAPERS

Biosynthesis and Degradation

Endocytosis and breakdown of ^{125}I-labelled lactate dehydrogenase isoenzyme M4 by rat liver and spleen *in vivo*	J. SINKE, J. M. W. BOUMA, T. KOOISTRA & M. GRUBER	1–9
Protein synthesis in muscles from normal and dystrophic hamsters	M. SALEEM & D. M. NICHOLLS	51–58
Total, latent and active collagenase during the course of post-partum involution of the rat uterus. Effect of oestradiol	J. F. WOESSNER, JR.	95–102
Bacterial and fungal oxidation of dibenzofuran	C. E. CERNIGLIA, J. C. MORGAN & D. T. GIBSON	175–185
Studies on the inhibition of protein synthesis by seleno-diglutathione	L. N. VERNIE, J. G. COLLARD, A. P. M. EKER, A. DE WILDT & I. T. WILDERS	213–218

Bioenergetics

Interaction of lipophilic quinones with membrane fragments of *Paracoccus denitrificans* and *Staphylococcus epidermidis*	V. MIKEŠ & V. DADÁK	69–73
Comparison of permeant ion uptake and carotenoid-band shift as methods for determining the membrane potential in chromatophores from *Rhodopseudomonas sphaeroides* Ga	S. J. FERGUSON, O. T. G. JONES, D. B. KELL & M. C. SORGATO	75–85
The *uncA* gene codes for the α-subunit of the adenosine triphosphatase of *Escherichia coli*. Electrophoretic analysis of *uncA* mutant strains	A. E. SENIOR, J. A. DOWNIE, G. B. COX, F. GIBSON, L. LANGMAN & D. R. H. FAYLE	103–109
Properties of membranes from mutant strains of *Escherichia coli* in which the β-subunit of the adenosine triphosphatase is abnormal	A. E. SENIOR, D. R. H. FAYLE, J. A. DOWNIE, F. GIBSON & G. B. COX	111–118
NADH- and NADPH-dependent formation of superoxide anions by bovine heart submitochondrial particles and NADH–ubiquinone reductase preparation	K. TAKESHIGE & S. MINAKAMI	129–135
Oxygen-pulse curves in rat liver mitochondrial suspensions. Some observations and deductions	G. P. R. ARCHBOLD, C. L. FARRINGTON, S. A. LAPPIN, A. M. MCKAY & F. H. MALPRESS	161–174

Subcellular Structures

The isolation and partial characterization of the plasma membrane from *Trypanosoma brucei*	H. P. VOORHEIS, J. S. GALE, M. J. OWEN & W. EDWARDS	11–24

Cellular Interactions and Control Processes

Effects of protein-deprivation on the regeneration of rat liver after partial hepatectomy	J. MCGOWAN, V. ATRYZEK & N. FAUSTO	25–35
Selective stimulation by tri-iodothyronine of myocardial deoxyribonucleic acid polymerase-α in neonatal rats	C. J. LIMAS	59–67
Effects of diamines on ornithine decarboxylase activity in control and virally transformed mouse fibroblasts	D. R. BETHELL & A. E. PEGG	87–94
Putrescine uptake by the cellular slime mould *Dictyostelium discoideum*	R. TURNER, M. J. NORTH & J. M. HARWOOD	119–127

Metabolism and insulin-releasing capabilities of glucosamine and *n*-acetylglucosamine in isolated rat islets	W. S. Zawalich, E. S. Dye & F. M. Matschinsky	145–152
Heterogeneity and properties of hepatic dexamethasone-binding proteins	S.-L. H. Liu & T. E. Webb	187–193
The involvement of glucocorticoids in regulating the activity of phosphatidate phosphohydrolase and the synthesis of triacylglycerols in the liver. Effects of feeding rats with glucose, sorbitol, fructose, glycerol and ethanol	D. N. Brindley, J. Cooling, S. L. Burditt, P. H. Pritchard, S. Pawson & R. G. Sturton	195–199
Receptor-mediated gonadotropin action in the ovary. Regulatory role of cyclic nucleotide phosphodiesterase(s) in intracellular adenosine 3′:5′-cyclic monophosphate turnover and gonadotropin-stimulated progesterone production by rat ovarian cells	S. Azhar & K. M. J. Menon	201–211
Protein kinase activities in rat pancreatic islets of Langerhans	M. C. Sugden, S. J. H. Ashcroft & P. H. Sugden	219–229
Development		
Regulation of ketogenesis during the suckling–weanling transition in the rat. Studies with isolated hepatocytes	M. Benito, E. Whitelaw & D. H. Williamson	137–144
Hepatocyte differentiation in culture. Appearance of tyrosine aminotransferase	G. C. T. Yeoh, F. A. Bennett & I. T. Oliver	153–160
Metabolism in Whole Organisms		
The porphyrin pigmentation of subspecies of *Bacteroides melaninogenicus*	H. N. Shah, R. Bonnett, B. Mateen & R. A. D. Williams	45–50
General Methods		
Application of spin-echo nuclear magnetic resonance to whole-cell systems. Membrane transport	K. M. Brindle, F. F. Brown, I. D. Campbell, C. Grathwohl & P. W. Kuchel	37–44

RAPID PAPERS

Bioenergetics		
The presence of two cytochromes *b* in the facultative methylotroph *Pseudomonas* AM1	C. W. Keevil & C. Anthony	237–239
Taurine transport in renal brush-border-membrane vesicles	R. Rozen, H. S. Tenenhouse & C. R. Scriver	245–248
Subcellular Structures		
A comparison based on delayed light emission and fluorescence induction of intact chloroplasts isolated from mesophyll protoplasts and bundle-sheath cells of maize	R. P. F. Gregory, M. Droppa, G. Horváth & E. H. Evans	253–256
Cellular Interactions and Control Processes		
Defective calcium handling and insulin release in islets from diabetic Chinese hamsters	E. G. Siegel, C. B. Wollheim, G. W. G. Sharp, L. Herberg & A. E. Renold	233–236
Studies on the mechanism of experimental porphyria produced by 3,5-diethoxycarbonyl-1,4-dihydrocollidine. Role of a porphyrin-like inhibitor of protohaem ferrolyase	T. R. Tephly, A. H. Gibbs & F. De Matteis	241–244
Antigen- or mitogen-provoked spleen cells produce factors that stimulate the secretion by macrophages of a neutral proteinase degrading cartilage proteoglycans	P. Hauser & G. Vaes	249–251

GENERAL BOOKBINDING CO.
79 294AA 2 013 1 C
QUALITY CONTROL MARK

2109

Contents of Volume 180, No. 2

FULL PAPERS

Biosynthesis and Degradation

Macrophage protein turnover. Evidence for lysosomal participation in basal proteolysis	R. T. Dean	339–345
Glycogen synthesis by rat hepatocytes	J. Katz, S. Golden & P. A. Wals	389–402
A tissue-culture model of cartilage breakdown in rheumatoid arthritis. Quantitative aspects of proteoglycan release	J. Steinberg, C. B. Sledge, J. Noble & C. R. Stirrat	403–412

Bioenergetics

Inhibition of ribonucleic acid efflux from isolated SV40-3T3 cell nuclei by 3′-deoxyadenosine (cordycepin)	P. S. Agutter & B. McCaldin	371–378

Subcellular Structures

Subcellular localization and ionic properties of acetylcoenzyme A synthetase in the electric organ of *Torpedo marmorata*	Y. Morot-Gaudry & M.-F. Diebler	297–301

Cellular Interactions and Control Processes

Induction of liver cell haem oxygenase in iron-overloaded rats	N. G. Ibrahim, S. T. Hoffstein & M. L. Freedman	257–263
Effects of ethynyloestradiol on the metabolism of [1-^{14}C]-oleate by perfused livers and hepatocytes from female rats	I. Weinstein, C. Soler-Argilaga, H. V. Werner & M. Heimberg	265–271
Re-examination of the subcellular localization of thyroxine 5′-deiodination in rat liver	D. Auf Dem Brinke, R.-D. Hesch & J. Köhrle	273–279
Interaction between glucocorticoids and glucagon in the hormonal modification of calcium retention by isolated rat liver mitochondria	B. P. Hughes & G. J. Barritt	291–295
Effects of diffusible products of peroxidation of rat liver microsomal lipids	A. Benedetti, A. F. Casini, M. Ferrali & M. Comporti	303–312
Interactions of small molecules with phospholipid bilayers. Binding to egg phosphatidylcholine of some uncharged molecules (2-acetylaminofluorene, 4-dimethylaminoazobenzene, oestrone and testosterone) that bind to ligandin and aminoazo-dye-binding protein A	E. Tipping, B. Ketterer & L. Christodoulides	319–326
Interactions of small molecules with phospholipid bilayers. Binding to egg phosphatidylcholine of some organic anions (bromosulphophthalein, oestrone sulphate, haem and bilirubin) that bind to ligandin and aminoazo-dye-binding protein A	E. Tipping, B. Ketterer & L. Christodoulides	327–337
A high-affinity oestrogen-binding protein in cockerel liver cytosol	C. B. Lazier & A. J. Haggarty	347–353
Steroidogenesis in isolated adrenocortical cells. Correlation with receptor-bound adenosine 3′:5′-cyclic monophosphate	E. J. Podesta, A. Milani, H. Steffen & R. Neher	355–363
Sensitivity of glucose uptake and lipolysis of white adipocytes of the rat to insulin and effects of some metabolites	A. Green & E. A. Newsholme	365–370

Interaction between membrane functions and protein synthesis in reticulocytes. An elongation-stage inhibitor of protein synthesis extracted from the reticulocyte membrane — D. H. WRESCHNER & M. HERZBERG — 379–387

Recognition of human urine α-*N*-acetylglucosaminidase by rat hepatocytes. Involvement of receptors specific for galactose, mannose 6-phosphate and mannose — K. ULLRICH, R. BASNER, V. GIESELMANN & K. VON FIGURA — 413–419

Development

Altered sexual differentiation of hepatic uridine diphosphate glucuronyltransferase by neonatal hormone treatment in rats — C. A. LAMARTINIERE, C. S. DIERINGER, E. KITA & G. W. LUCIER — 313–318

Metabolism in Whole Organisms

Differences between lactating and non-lactating dairy cows in concentration and secretion rate of insulin — M. A. LOMAX, G. D. BAIRD, C. B. MALLINSON & H. W. SYMONDS — 281–289

RAPID PAPERS

Biosynthesis and Degradation

Lower rates of protein degradation in developing rat brain — J. L. DAHL & V. J. WEIBEL — 423–426

Subcellular Structures

The subcellular fractionation of embryonic chick tendon and cartilage cells: a re-examination — M. E. GRANT & D. S. JACKSON — 435–436

The separation of microsomal membranes and free polyribosomes by gel filtration — N. MCCOLE, D. N. PALMER & D. J. WILLIAMS — 437–439

The rapid preparation of peroxisomes from rat liver by using a vertical rotor — C. E. NEAT & H. OSMUNDSEN — 445–448

Cellular Interactions and Control Processes

The effect of surgical trauma on muscle protein turnover in rats. A serious methodological misunderstanding — D. J. MILLWARD — 427–429

Control of hepatic triacylglycerol synthesis. Diurnal variations in hepatic phosphatidate phosphohydrolase activity in the concentrations of circulating insulin and corticosterone in rats — A. M. KNOX, R. G. STURTON, J. COOLING & D. N. BRINDLEY — 441–443

Metabolism in Whole Organisms

Adrenaline responsiveness of glucose metabolism in insulin-resistant adipose tissue of rats fed a high-fat diet — C. SUSINI, M. LAVAU & J. HERZOG — 431–433

Contents of Volume 180, No. 3

FULL PAPERS

Biosynthesis and Degradation

Poly(adenosine diphosphate ribose) synthetase activity in nuclei of dividing and of non-dividing but differentiating intestinal epithelial cells — J. W. PORTEOUS, H. M. FURNEAUX, C. K. PEARSON, C. M. LAKE & A. MORRISON — 455–463

Ligation and synthesis of chromatin deoxyribonucleic acid *in vitro* in neuronal, glial and liver nuclei isolated from adult guinea pig — N. INOUE, T. ONO & T. KATO — 471–480

The decarboxylation of *S*-adenosylmethionine by detergent-treated extracts of rat liver	J. Wilson, A. Corti, M. Hawkins, H. G. Williams-Ashman & A. E. Pegg	515–522
The assay and partial characterization of macromolecular heparin depolymerase activity in rat small intestine	E. Young & A. A. Horner	587–596
Inhibition by cycloheximide of degradation of cytochrome *P*-450 in primary cultures of adult rat liver parenchymal cells and *in vivo*	P. S. Guzelian & J. L. Barwick	621–630
Metabolism of dibenzo[1,4]dioxan by a *Pseudomonas* species	G. M. Klečka & D. T. Gibson	639–645
Unaltered catabolism of desialylated low-density lipoprotein in the pig and in cultured rat hepatocytes	A. D. Attie, D. B. Weinstein, H. H. Freeze, R. C. Pittman & D. Steinberg	647–654
Subcellular Structures		
Subcellular localization of the enzyme that forms mannosyl retinyl phosphate from guanosine diphosphate [^{14}C]-mannose and retinyl phosphate	M. J. Smith, J. B. Schreiber & G. Wolf	449–453
A potassium ion diffusion potential causes adrenaline uptake in chromaffin-granule 'ghosts'	D. Njus & G. K. Radda	579–585
Cellular Interactions and Control Processes		
Effect of dietary phosphate intake on phosphate transport by isolated rat renal brush-border vesicles	R. Stoll, R. Kinne & H. Murer	465–470
The effect of tunicamycin on the glycosylation of lactating-rabbit mammary glycoproteins	B. K. Speake & D. A. White	481–489
Hormonal control of uteroglobin secretion in rabbit uterus. Inhibition of uteroglobin synthesis and messenger ribonucleic acid accumulation by oestrogen and anti-oestrogen administration	H. T. Kopu, S. M. Hemminki, T. K. Torkkeli & O. A. Jänne	491–500
Demonstration of altered acidic hydrolases in fibroblasts from patients with mucolipidosis II lectin titration	R. Rousson, Y. Ben-Yoseph, M. B. Fiddler & H. L. Nadler	501–505
Effects of α-difluoromethylornithine, an enzyme-activated irreversible inhibitor of ornithine decarboxylase, on testosterone-induced regeneration of prostate and seminal vesicle in castrated rats	C. Danzin, M. J. Jung, N. Claverie, J. Grove, A. Sjoerdsma & J. Koch-Weser	507–513
Acute regulation of pyruvate kinase activity in rat epididymal adipose tissue by insulin	R. M. Denton, N. J. Edgell, B. J. Bridges & G. P. Poole	523–531
The effects of calcium ions and adenine nucleotides on the activity of pig heart 2-oxoglutarate dehydrogenase complex	J. G. McCormack & R. M. Denton	533–544
The role of insulin in the regulation of stearic acid desaturase activity in liver and adipose tissue from obese–hyperglycaemic (*ob*/*ob*) and lean mice	M. Enser	551–558
Effects of temperature, metabolic inhibitors and some other factors on fluid-phase and adsorptive pinocytosis by rat peritoneal macrophages	M. K. Pratten & J. B. Lloyd	567–571
Ability of human chorionic gonadotropin β-subunit to inhibit the steroidogenic response to lutropin	R. R. Dighe, K. Muralidhar & N. R. Moudgal	573–578
The application of microcalorimetry to the assessment of metabolic efficiency in isolated rat hepatocytes	I. G. Jarrett, D. G. Clark, O. H. Filsell, J. W. Harvey & M. G. Clark	631–638

DOES NOT CIRCULATE

Relationship between phosphatidylinositol synthesis and recovery of 5-hydroxytryptamine-responsive Ca^{2+} flux in blowfly salivary glands	J. N. FAIN & M. J. BERRIDGE	655–661
Development		
Tyrosine aminotransferase induction in hepatocytes cultured from rat foetuses treated with dexamethasone *in utero*	G. C. T. YEOH, T. ARBUCKLE & I. T. OLIVER	545–549
Metabolism in Whole Organisms		
The low availability of dietary choline for the nutrition of the sheep	A. R. NEILL, D. W. GRIME, A. M. SNOSWELL, A. J. NORTHROP, D. B. LINDSAY & R. M. C. DAWSON	559–565
Copper metabolism in mottled mouse mutants. Copper concentrations in tissues during development	J. CAMAKARIS, J. R. MANN & D. M. DANKS	597–604
Copper metabolism in mottled mouse mutants. Copper therapy of brindled (Mo^{br}) mice	J. R. MANN, J. CAMAKARIS, D. M. DANKS & E. G. WALLICZEK	605–612
Copper metabolism in mottled mouse mutants. Distribution of ^{64}Cu in brindled (Mo^{br}) mice	J. R. MANN, J. CAMAKARIS & D. M. DANKS	613–619

RAPID PAPERS

Bioenergetics		
Effects of the cyanine dye 3,3′-dipropylthiocarbocyanine on mitochondrial energy conservation	P. H. HOWARD, JR. & S. B. WILSON	669–672
Subcellular Structures		
Cytosolic location of an endo-*N*-acetyl-*β*-D-glucosaminidase activity in rat liver and kidney	R. J. PIERCE, G. SPIK & J. MONTREUIL	673–676
Cellular Interactions and Control Processes		
Synthetic peptides comprising sequences of the human immunoglobulin E heavy chain capable of releasing histamine	D. R. STANWORTH, M. KINGS, P. D. ROY, J. M. MORAN & D. M. MORAN	665–668
Effects of some chlorinated sugar derivatives on the hexose transport system of the blood/brain barrier	J. E. CREMER & V. J. CUNNINGHAM	677–679
Alterations in the rate of lipogenesis *in vivo* in maternal liver and adipose tissue on premature weaning of lactating rats. A possible regulatory role of prolactin	L. AGIUS, A. M. ROBINSON, J. R. GIRARD & D. H. WILLIAMSON	689–692
Metabolism in Whole Organisms		
Inhibition of renal gluconeogenesis in rats by ochratoxin	H. MEISNER & P. SELANIK	681–684
General Methods		
Loss of cell constituents from hepatocytes on centrifugation	G. M. SAINSBURY, M. STUBBS, R. HEMS & H. A. KREBS	685–688

INDEXES

Author Index	693–694
Subject Index	695–709

NTENTS

655–661

545–549

559–565

597–604

605–612

613–619

669–672

673–676

665–668

677–679

689–692

681–684

685–688

693–694

695–709